



## ServSwitch™ Freedom Installation Guide

**Seamlessly move your mouse from monitor to monitor across multiple computers as if it were one single computer with many video heads.**



### Customer Support Information

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500)  
FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746  
Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence, PA 15055-1018  
Web site: [www.blackbox.com](http://www.blackbox.com) • E-mail: [info@blackbox.com](mailto:info@blackbox.com)

## Trademarks Used in this Manual

---

### Trademarks Used in this Manual

Black Box and the Double Diamond logo are registered trademarks, and ServSwitch is a trademark, of BB Technologies, Inc.

Acer is a registered trademark of Acer Incorporated.

Apple and Mac OS are trademarks or registered trademarks of Apple Inc. in the United States and/or other countries.

Asus is a trademark of ASUSTEK COMPUTER INCORPORATION.

DisplayLink is a trademark or registered trademark of DisplayLink Corp. in the United States and/or other countries.

HP is a registered trademark of Hewlett-Packard Development Company.

Logitech is a registered trademark of Logitech International SA.

Microsoft, Windows, and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Any other trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.

We're here to help! If you have any questions about your application or our products, contact Black Box Tech Support at **724-746-5500** or go to **blackbox.com** and click on "Talk to Black Box." You'll be live with one of our technical experts in less than 30 seconds.

### Federal Communications Commission and Industry Canada Radio Frequency Interference Statements

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

### Instrucciones de Seguridad

#### (Normas Oficiales Mexicanas Electrical Safety Statement)

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquear la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deberá ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objectos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

### Table of Contents

1. Specifications.....	6
2. Overview .....	7
2.1 Description .....	7
2.2 What's Required.....	7
3. Setup and Installation .....	8
4. Troubleshooting.....	9
Appendix. Equipment That Has Been Tested to Work With the ServSwitch Freedom.....	11

# Chapter 1: Specifications

---

## 1. Specifications

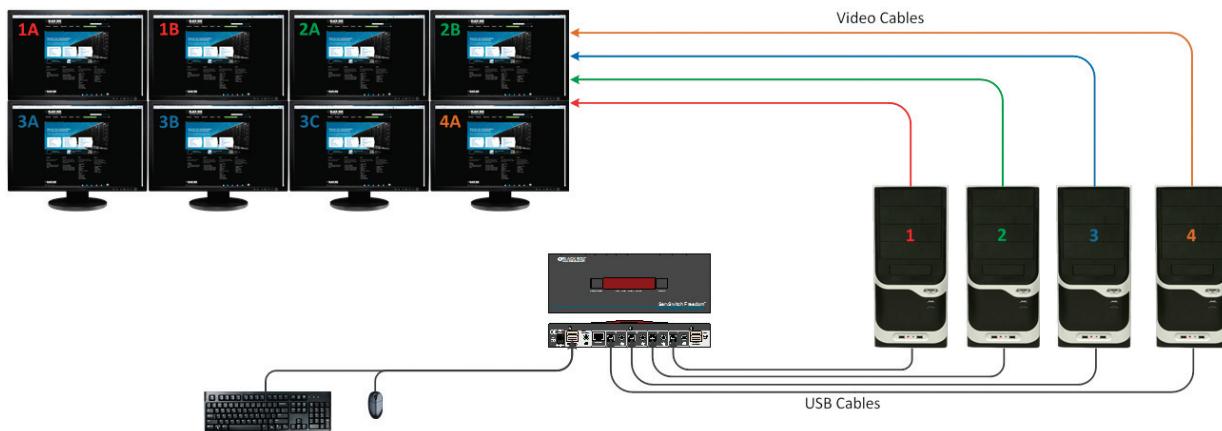
### Technical Specifications

Approvals	CE, RoHS
Hardware Compatibility	All computers with USB interfaces
User Controls	(1) Computer button to change computer channels; (1) Mode button to determine which peripherals are switched
Connectors	CPU/server side: (4) computer channels, each with (1) USB Type B, (1) 3.5-mm stereo audio jack; User console: (2) USB Type A (keyboard/mouse), (1) 3.5-mm stereo audio jack; User console switched USB: (2) USB 2.0 Type A (emulated USB for HID devices; supports USB 2.0 devices in low-, full-, and high-speed modes); RS-232 control/flash upgrade: (1) RJ-45 (modular 10P10C)
Power	External: Input: 100–240 VAC, 50–60 Hz, autosensing; Output: 5 VDC, 2.5 amp
Dimensions	1.6" H x 9.1" W x 3.4" D (4.1 x 23 x 8.6 cm)
Weight	1.75 lb. (0.8 kg)

## 2. Overview

### 2.1 Description

The ServSwitch Freedom is a seamless multi-computer switch. It allows a user to seamlessly move his/her mouse from monitor to monitor across multiple computers as if it were one single computer with many video heads. The technology will allow a user to quickly and efficiently perform multiple tasks without having to use hotkeys or push buttons. The application below is an example of how the ServSwitch Freedom can be used.



Example of a Glide and Switch application with ServSwitch Freedom. Computers 1–2 are using dual-head video, computer 3 is using three-head video, and computer 4 is using a single-head video output.

### 2.2 What's Required

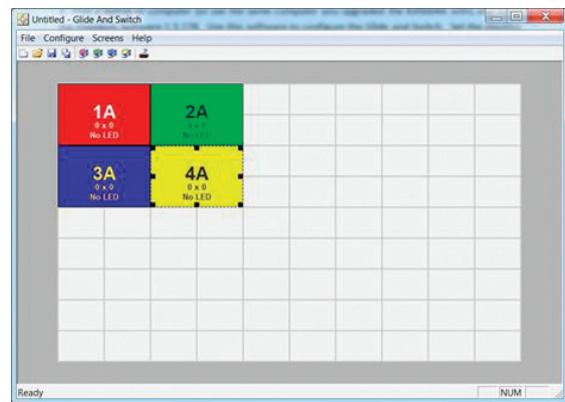
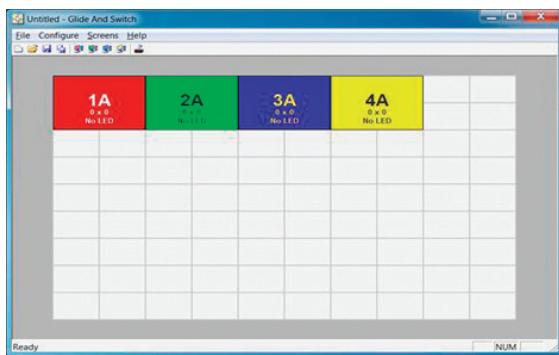
- KV0004A (ServSwitch Freedom)
- Freedom firmware V2.02 to be installed on the Freedom\*
- Freedom Software 1.5.178 to be installed on a controlled computer to configure the Freedom\*
- Freedom Drivers 1.5.178 to be installed on every computer that uses multiple monitors. Computers with single monitor outputs do not require this driver\*

\*At the time of the writing of this guide, the firmware versions specified were the latest and were created to function properly with each other.

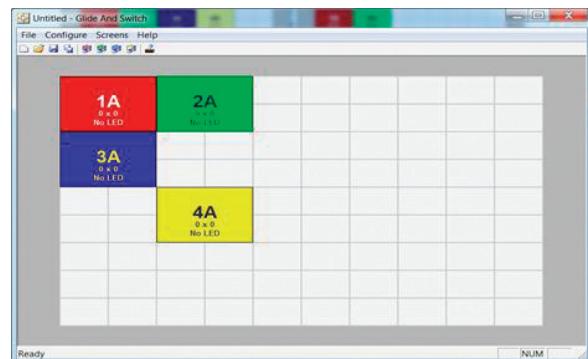
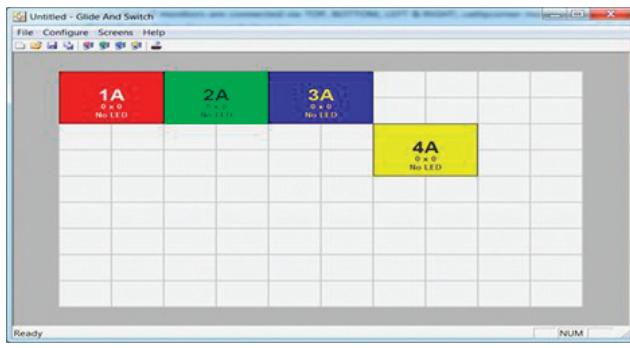
# Chapter 3: Setup and Installation

## 3. Setup and Installation

1. Upgrade the firmware on the KV0004A to firmware version 2.02. If the upgrade fails midway, attempt to perform the upgrade again. These failures can be caused by using specific USB to RS-232 converters.
2. Find a laptop or computer (or use the same computer you upgraded the KV0004A with) and install the Freedom Software 1.5.178. Use this software to configure the Glide and Switch. Set the monitor layout using the Glide and Switch software, then set your monitor resolution for each output. For Windows 7, if you wish to change the mouse parking, you may do so now. Mouse Parking will allow you to set the idle parking spot for the mouse. If you are using Windows 7, the default parking position is the bottom right of the screen and this can cause unwanted window transparency. Configure your layout in such a way that all monitors are connected via TOP, BOTTOM, LEFT, and RIGHT; catty-corner monitors are not allowed. See below for example layouts:



Good examples of a layout.



Bad examples of a layout.

3. Install the Freedom Drivers 1.5.178 on every target computer that will be using more than one video head. It is not necessary to install the drivers on computers that will only be using a single monitor.

**CAUTION: When downloading the drivers BE SURE TO EXTRACT THE FILES FROM THE ZIP BEFORE INSTALLING, otherwise the drivers will not install correctly.**

4. Plug your equipment in and power up. You should now be the proud owner of a fully functional ServSwitch Freedom. If you encountered any issues up to this point, please review the troubleshooting tips on the next page.

### 4. Troubleshooting

#### Keyboards and Mice:

**Keyboard Compatibility:** Not all keyboards and mice are supported through this solution. To see the complete list of known functional devices, see the Appendix.

**KVM Extension:** Not all KVM extenders will support the ServSwitch Freedom.

**Drivers Issue 1:** Be sure to unzip the driver zip file, otherwise the drivers will not install correctly.

**Drivers Issue 2:** The installation of this driver can fail on Windows 7 systems for a variety of reasons, but by using the steps below you should be able to get the drivers up and running.

The installation process should create, in Device Manager, a Multi-monitor USB Mouse HID device entry under Human Interface Devices and a Multi-Monitor USB mouse filter under Mice and other pointing devices. If the install fails, users get an unrecognized device listed under HID or Mice and another pointing device (or both). To fix this issue, follow these steps.

1. Stop Glide and Switch using hotkey ALT+CTRL+F (the top row LEDs should stop scrolling).
2. Go to Device Manager and right-click on the device with the exclamation point and choose "Properties."
3. On the Driver tab, click the "Uninstall" button. In the Confirm Device Uninstall dialog box check "Delete driver software for this device."
4. With Device Manager still open, disconnect the USB connection of the computer from the switch.
5. The HID and mice and other pointing devices' nodes should be removed from Device Manager.
6. Reconnect the computer's USB cable to the switch.
7. Check to see if there is a Multi-monitor USB mouse HID device entry under Human Interface Devices.
8. If there is no Multi-monitor USB mouse HID device entry, find a device with Hardware ID (right-click device, go to Properties, Details —> choose Hardware IDs from drop-down list) VID21D1 and PID0001. Once the device with the right Hardware ID is found, click the "Driver" tab and select "Update driver." Choose to Manually Browse computer for the driver folder and go to c:\Program Files\Blackbox\Multi-monitor Glide and Switch\Drivers\HID and click "OK." On 64-bit systems the path is c:\Program files (x86)\.....
9. Check to see if there is a Multi-monitor USB mouse Filter device entry under "Mice and Other pointing devices."
10. If there is no Multi-monitor USB mouse Filter device entry, find a device with Hardware ID (right click device, go to Properties, Details —> choose Hardware IDs from drop-down list) VID21D1 & PID0001 & Col02 (\*\* NOT Col01 \*\*). Once the device with the right Hardware ID is found, click the Driver tab and select "Update driver." Choose to Manually Browse the computer for the driver folder and go to c:\Program Files\Blackbox\Multi-monitor Glide and Switch\Drivers\Mouse and click "OK." On 64-bit systems, the path is c:\Program files (x86)\.....
11. The location of the driver files under Program files might be a bit different, but they should be in the Drivers\HID and Drivers\Mouse folders.
12. Enable Glide and Switch using ALT+CTRL+F.

#### Monitor Issues:

**Monitor Output Issue:** If you are using a mix and match of onboard video and PCI video card output, the mouse pointer will not be able to seamlessly switch between multiple monitors because the multi-monitor drivers cannot control both of these displays. Use only PCI video output or all onboard video. In a few cases, the drivers will work in these applications but when they don't, it is very difficult to troubleshoot. If you are using an emulated video output such as a USB to VGA/DVI converter/adapter, once again the drivers will have a hard time controlling the mouse flow and may not work. The main reason for this is that the drivers will be conflicting with the DisplayLink™ drivers controlling the video output. We recommend that you use physical outputs.

## Chapter 4: Troubleshooting

---

### Antivirus:

If you are notified of a malicious file during any part of this installation, update your antivirus software. Symantec software that is out of date may advise you of a suspicious MH690 error and remove the file.

## Appendix: Equipment That Has Been Tested to Work with the ServSwitch Freedom

### Appendix: Equipment That Has Been Tested to Work With the ServSwitch Freedom

Supported mice that have been tested.

Manufacturer	Model	KVM Compatible Including Glide and Switch	NOTES*
Acer	SM-9625	Yes	
Acer	M-UVACR1	Yes	
Acer	MS.MUV01.001	Yes	
Asus	Mini-n6	Yes	
Lenova	M028UOL	Yes	
Logitech	M-U0007	Yes	1
Logitech	MX518	Yes	1
Logitech	G9X m-u0006	Yes	
Logitech	G500	Yes	1
Logitech	MX5500, M-RCL124	Yes	1, 2, 4
Logitech	M-BT58	Yes	
Logitech	T-BC21	Yes	
Logitech	M310	Yes	
Logitech	M505 (unified RX)	Yes	1
Logitech	M-R0006	Yes	1
Logitech	M570	Yes	1
Logitech	M210 M-R0020	Yes	
Logitech	Trackman Wheel 804 360-1000	Yes	
Logitech	B100 M-U0003	Yes	
Kensington	M/N 1500151	Yes	
Kensington	Pilotmouse 72128	Yes	
Microsoft	M/N 1113	Yes	
Microsoft	M/N 1114	Yes	
Microsoft	M/N 1405	Yes	
Microsoft	Wireless Mouse 5000	Yes	1
Microsoft	Wheel mouse optical	Yes	
Dell	N8889, MS-111P	Yes	
Dell	M-UVDEL1	Yes	
Sun	FID-638	Yes	
Contour	PMO-XL-R	Yes	
Apple	A1152	Yes	3
Razor	Lachesis RZ01-017	Yes	

**\*NOTES:**

1. In order to access UEFI bios, Glide and Switch needs to be disabled.
2. Logitech Set point driver not supported.
3. No right mouse button.
4. With Glide and Switch disabled, mouse switching of channels is not supported.

## Appendix: Equipment That Has Been Tested to Work with the ServSwitch Freedom

---

Supported keyboards that have been tested.

Manufacturer	Model	KVM Compatible Including Glide and Switch	NOTES*
Dell	KB1421	Yes	
Dell	KB212-B	Yes	
Dell	SK-8115	Yes	
Dell	SK-8135	Yes	
Dell	RT7D60	Yes	2
Dell	L100	Yes	
Microsoft	Wired 600 keyboard	Yes	
Microsoft	Wireless 3000 keyboard	Yes	
Belkin	F8E206	Yes	
Asus	KS2003	Yes	
Apple	A1243	Yes	
Logitech	K520	Yes	1
Logitech	MK300	Yes	1
Logitech	K800	Yes	1
Logitech	MX5500	Yes	1, 3
Logitech	Classic 200	Yes	
Logitech	Y-RAY 81	Yes	
Cherry	ML5400	Yes	
Man and Machine	Simply cool keyboard 201104	Yes	
Man and Machine	Really cool keyboard MMI KR1160	Yes	
Acer	KU-0760	Yes	
Kensington	Valukeyboard PK1100U	Yes	
Sun Microsystems	Type 7	Yes	
Sun Microsystems	Type 6	Yes	
HP	KU 2971	Yes	
HP	KU 0316	Yes	
Accuratus	KYBAC260UP	Yes	

\*NOTES:

1. Logitech set point driver not supported.
2. Built-in card reader not supported.
3. LCD Display not supported.

## Appendix: Equipment That Has Been Tested to Work with the ServSwitch Freedom

---

Supported gaming keyboards that have been tested.

Manufacturer	Model	KVM Compatible Including Glide and Switch	NOTES*
Logitech	G110	Yes	1, 2, 3
Logitech	G15	Yes	1, 3
Logitech	G19	Yes	1, 3
Microsoft	SideWinder X6	Yes	
Cyborg	V7-KU-0728	Yes	4
Razor	Black Widow Ultimate RZ03-0038	Yes	
Roccat	Isku ROC-12-702	Yes	
Tesports	Chllenger Pro	Yes	

\*NOTES:

1. Logitech G-Keys and set point driver not supported.
2. Audio devices, microphone, and speaker not supported.
3. LCD display not supported.
4. Windows 8 is not supported.

## NOTES

---



## Black Box Tech Support: FREE! Live. 24/7.

Tech support the  
way it should be.



Great tech support is just 30 seconds away at 724-746-5500 or [blackbox.com](http://blackbox.com).



### About Black Box

Black Box provides an extensive range of networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 30 seconds or less.

© Copyright 2013. Black Box Corporation. All rights reserved. Black Box® and the Double Diamond logo are registered trademarks of BB Technologies, Inc. Any third-party trademarks appearing in this manual are acknowledged to be the property of their respective owners.